AP/2663
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS

Appellant:	Nattkemper et al.	**APPEAL BRIEF**
Serial No.	09/833,780	
Filing Date	April 12, 2001	
Group Art Unit	2663	
Examiner	Derrick W. Ferris	
Confirmation No.	3923	
Attorney Docket No.	100.168US01	
Title: AUTOMATIC PERMANENT VIRTUAL CIRCUIT CONNECTION ACTIVATION FOR CONNECTION ORIENTED NETWORKS		

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TRANSMITTAL
FORM UNDER
37 CFR 1.8
(LARGE ENTITY)

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X An Appeal Brief (in triplicate, original plus two copies) (46 pgs.).
X Credit Card Payment Form PTO-2038 (1 pg.), for filing a brief in support of an appeal under 37 C.F.R. 1.17(c).
X An itemized return receipt postcard.

CUSTOMER NO. 34206

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Name	Nicole E. Landree	Signature	Nicole E. Landree

Introduction

On September 22, 2004, Appellants filed a notice of appeal from the final rejection of claims 1 - 40 and 42-54 set forth in the Final Office Action mailed March 22, 2004 (hereinafter FOA). Three copies of this Appeal Brief are hereby timely filed on December 27, 2004 and are accompanied by a fee in the amount of $340.00 as required under 37 C.F.R. §41.20(b)(2).

1. Real Party in Interest

The real party in interest in the above-captioned application is the assignee ADC DSL Systems, Inc.

2. Related Appeals and Interferences

There are no other appeals or interferences known to Appellants that will have a bearing on the Board's decision in the present appeal.

3. Status of the Claims

Claims 1 - 40 and 42-54 are pending in this application and are the subject of this appeal. Claim 41 has been canceled. In an office action mailed March 22, 2004, claims 1-40 and 42-54 were finally rejected under 35 U.S.C. § 103(a).

4. Status of Amendments

No amendment has been filed subsequent to the Office Action mailed March 22, 2004.

5. Summary of claimed subject matter

In one embodiment, a method of automatic permanent virtual circuit connection activation is provided. The method comprises detecting initiation of communication (250)

between a first (120) and a second network element (130) at a first reference point (104). The method further comprises receiving at least one virtual circuit identifier of the first network element (120) and learning at least one virtual circuit identifier (260) of the second network element (130). In addition, the method comprises creating a translation connection (270) between the first and second network elements. This embodiment is supported, for example, in Figures 1, 2, and 3 and in paragraphs [0022] - [0025] and [0036] - [0037] of the specification.

In another embodiment, a method of automatic permanent virtual circuit connection activation is provided. The method comprises detecting initiation of communication (250) between a first (120) and a second network element (130) at a first reference point (104). The method further comprises learning at least one virtual circuit identifier (260) of the first network element (120) and learning at least one virtual circuit identifier (260) of the second network element (130). In addition, the method comprises creating a translation connection (270) between the first and second network elements. This embodiment is supported, for example, in Figures 1, 2, and 3 and in paragraphs [0022] - [0025] and [0036] - [0037] of the specification.

In another embodiment, a method of automatic permanent virtual circuit connection activation is provided. The method comprises detecting initiation of communication (250) between customer premises equipment (170) and a network element (130) at a first reference point (104). The method further comprises receiving at least one virtual circuit identifier (260) of the network element (130) and learning at least one virtual circuit identifier (260) of the customer premises equipment (170). In addition, the method comprises creating a translation connection (270) between the customer premises equipment (170) and the network element (130). This embodiment is supported, for example, in Figures 1, 2, and 3 and in paragraphs [0022] - [0025] and [0036] - [0037] of the specification.

In another embodiment, a method of automatically configuring a permanent virtual

circuit in an ATM network (100) is provided. The method comprises detecting communication initiation (250) of an ATU-R (120). The method further comprises receiving at least one virtual circuit identifier of an ATU-C (130) and learning at least one virtual circuit identifier (260) of the ATU-R (120). In addition, the method comprises creating a translation connection between the ATU-R (120) and the ATU-C (120). This embodiment is supported, for example, in Figures 1, 2, and 3 and in paragraphs [0021] - [0025] and [0036] - [0037] of the specification.

In another embodiment, a communication network (100) is provided. The network comprises an access network (140), a central unit (130) selectively coupled to the access network (100), customer premises equipment (170) selectively coupled to the central unit (130), and an automatic permanent virtual circuit (PVC) connection activation function embedded within the central unit (130). The automatic PVC is enabled when the customer premises equipment (170) is initialized and is adapted to create a translation connection between the customer premises equipment (170) and the central unit (130). This embodiment is supported, for example, in Figures 1, 2, and 3 and in paragraphs [0022] - [0025] and [0036] - [0037] of the specification.

In another embodiment, a method of automatic permanent virtual circuit connection activation is provided. The method comprises detecting initiation of communication (250) at a user network interface between a first (120) and a second network element (130). The method further comprises receiving at least one virtual circuit identifier of the first network (120) element and learning at least one virtual circuit identifier (260) of the second network element 130). In addition, the method comprises creating a translation connection (270) between the first and second network elements. This embodiment is supported, for example, in Figures 1, 2, and 3 and in paragraphs [0022] - [0025] and [0036] - [0037] of the specification.

In another embodiment, a method of automatic permanent virtual circuit connection activation is provided. The method comprises detecting initiation of communication (250) at a

user network interface (104) between a first (120) and a second network element (130). The method further comprises learning at least one virtual circuit identifier (260) of the first network element (120) and learning at least one virtual circuit identifier (260) of the second network element (130). In addition, the method comprises creating a translation connection (270) between the first and second network elements. This embodiment is supported, for example, in Figures 1, 2, and 3 and in paragraphs [0022] - [0025] and [0036] - [0037] of the specification.

6. Grounds of rejection to be reviewed on appeal

The first issue presented in this Appeal is whether the Examiner failed to establish a *prima facie* case of obviousness by rejecting claims 1-6, 10-15, 18-24, 27, 49-51 and 53-54 under 35 U.S.C. 103(a) as being unpatentable over Parruck et al. (U.S. Patent 6,349,098).

The second issue presented in this Appeal is whether the Examiner failed to establish a *prima facie* case of obviousness by rejecting claims 7, 8, 16, 17, 25, 28 and 52 under 35 U.S.C. 103(a) as unpatentable over Parruck et al. in view of Black's "ATM Foundation for Broadband Networks" and in further view of Rice's "Soft PVCS in an ATM Network."

The third issue presented in this Appeal is whether the Examiner failed to establish a *prima facie* case of obviousness by rejecting claims 9, 26, 29-33, 35-36, 38-40, 42-44 and 47-48 under 35 U.S.C. 103(a) as unpatentable over Parruck in view of Gagnaie's "An Overview of Broad-band Access Technologies."

The fourth issue presented in this Appeal is whether the Examiner failed to establish a *prima facie* case of obviousness by rejecting claims 34, 37, 45 and 46 under 35 U.S.C. 103(a) as unpatentable over Parruck et al. in view of Gagnaie to Black and in further view of Rice.

7. Argument

A. Scope and Content of Prior Art

The Examiner has cited the Parruck et al. (U.S. Patent 6,349,098), Black's "ATM Foundation for Broadband Networks", Gagnaie's "An Overview of Broad-band Access Technologies", and Rice's "Soft PVCS in an ATM Network".

The Parruck reference relates to "[a]n improved method and apparatus for automatically forming a virtual circuit in an ATM switch" Parruck et. al, at Abstract.

The Black reference relates to "ATM call and connection control operations. Emphasis is placed on how connections are set up on demand between users and the ATM network." Black at page 241.

The Gagnaie reference relates to "a tutorial overview of the various options under investigation or about to appear on the market for a new access-networks generation." Gagnaie at 1959. Section II, referenced by the Examiner, is dedicated to high bit rate over twisted pair.

The Rice reference relates to "the use and advantages of conventional Soft PVCs (SPCCs) in an ATM network. It goes on to describe Data Connection's proprietary approach to providing protected SPVCs for protection switching redundancy." Rice at page 1.

B. Rejection of Claims 1 – 40 and 42-54 Under 35 U.S.C. § 103(a)

i. The Applicable Law

35 U.S.C.§ 103 provides in relevant part:

Conditions for patentability; non-obvious subject matter.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was

> made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

"The ultimate determination . . . whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness." *In re Dembiczak*, 175 F.3d 994, 998, 50 USPQ2d 1614, 1616 (1999) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966)).

When applying 35 U.S.C. §103, the claimed invention must be considered as a whole; the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and a reasonable expectation of success is the standard with which obviousness is determined. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. MPEP 2143 citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

ii. 35 U.S.C. §103(a) rejection analysis

The Examiner rejected claims 1-6, 10-15, 18-24, 27, 49-51 and 53-54 under 35 U.S.C. 103(a) as being unpatentable over Parruck et al. (U.S. Patent 6,349,098).

After review of Parruck et al. and without a basis for rejection by the Examiner, the Applicant asserts that claims 1-6, 10-15, 18-24, 27, 49-51 and 53-54 are allowable.

CLAIM 1

Claim 1 is directed to a method of automatic permanent virtual circuit connection activation. The method includes detecting initiation of communication between a first and a second network element at a first reference point, receiving at least one virtual circuit identifier of the first network element, learning at least one virtual circuit identifier of the second network element, and creating a translation connection between the first and second network elements. Parruck does not teach or suggest the method of automatic permanent virtual circuit connection activation as found in claim 1.

First, Parruck does not disclose learning at least one virtual circuit identifier of the second element as found in claim 1. Instead, Parruck discusses "a SETUP signal is generated by InPORT processor 416 and forwarded to both SU processor 602 and OutPORT processor 516 by way of bus 601. OutPORT processor 516 responds to SETUP signal by echoing back to both SU processor 602 and InPORT processor 416 connection parameters such as (VC, VP) associated with virtual circuit 800" (col. 6, lines 66 – col. 7, lines 8). Thus, Parruck does not describe "learning at least one *virtual circuit identifier* of the second network element" where a "*virtual circuit identifier*" is defined in the Applicant's specification as "the address field of any given network protocol that supports 'virtual circuit connections'" *See* Application at ¶ [0015].

Further, Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 1. Instead, Parruck discusses "InCCC 415 then uses the information from CRC and the lookup table device to generate a configuration set

up cell CSC. CSC is then passed to a second configuration cell configurator CCC 615 associated with SU 600. ... CCC 615 includes routing tables associated with virtual link 800b used, in part to form virtual circuit 800. Once the routing tables included with SU 600 are updated and validated by CSC, CSC is passed to OutSAP 514 where associated connection tables are updated and validated to define virtual link 800c. In this manner, virtual links 800a, 800b , and 800c may be used to define virtual circuit 800 in a hop by hop manner through ATM switch 202" (col. 7, lines 9-21). Parruck creates an ATM virtual circuit connection through this "hop by hop manner through ATM switch 202" rather than a translation connection as recited in the current application.

Although Examiner admits that Parruck does not disclose a translation connection, Examiner asserts "that it would have been obvious to one skilled in the art prior to applicant's invention to create a translation connection." *FOA* at ¶ 4, p. 4. Parruck provides neither a motivation to establish a translation connection nor a reasonable expectation of success. Examiner asserts that "[o]ne skilled in the art would be motivated to create a translation connection for the purpose of allowing the first network element to communicate with the second network element through the reference point that contains the translation connection." *FOA* at ¶ 4, p. 4. Applicant respectfully asserts that contrary to the Examiner's assertion, Parruck specifically defines a virtual circuit "in a hop by hop manner through ATM switch 202" without creating a translation connection. As Applicant discusses in the present application "[w]hen remote unit 120 and central unit 130 are assigned the *same* virtual circuit identifiers then compatible data transmission is assured." Application, at ¶ [0023]. In other words, when the remote unit and central unit are assigned the *same* virtual circuit identifiers then a translation connection is not required. As Applicant further discusses in the present application "[w]hen remote unit 120 and central unit are assigned or programmed to default to *different* virtual circuit identifiers then virtual connection translation is required." Application, at ¶ [0023]. For the latter case, "[e]mbodiments of the present invention provide an automatic PVC connection activation between customer premises equipment 170 and central unit 130 or other cross connect

equipment associated with access network 140." *Id.* Parruck neither teaches, suggests or motivates the creation of a translation connection under these, or any circumstances, nor is a translation connection required to practice Parruck. The Examiner's alleged cure of the deficiency amounts to hindsight reconstruction.

Applicant respectfully notes that Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 1, or suggest learning at least one virtual circuit identifier as found in claim 1. The Examiner cannot remedy this by hindsight reconstruction. Thus a prima facie case of obviousness has not been established. As a result claim 1 should be allowed.

CLAIMS 2-6 and 10

Claims 2-6 and 10 depend from and further define allowable claim 1 and for at least the reasons provided above are also allowable.

CLAIMS 2, 3, 6

Further, regarding claims 2, 3 and 6, Parruck discusses validating "routing tables included with SU 600" (col. 7, lines 16-17) and for an ATM data cell "the connection parameters included within the connection table associated with InSAP are fetched 651 and a validity determination 62 is made" (col. 10, lines 51- 55). Further, Parruck discusses "Validation refers to the process whereby a validity bit, or some other flag, is set to indicate that the connection data contained within the respective connection table are valid and appropriate to the virtual circuit being set up" (col. 9, lines 6-9). Parruck does not discuss "validating the at least one *virtual circuit identifier*" as defined by "a valid permanent virtual circuit database" as found in claims 2 and 3 of the present application . Applicant respectfully notes that Parruck neither teaches, suggests or motivates the elements found in claims 2, 3 and 6. Thus, a prima facie case of obviousness has not been established. As a result claims 2, 3 and 6 should be allowed.

CLAIM 4

Further, regarding Examiner's rejection of claim 4, Examiner references Parruck Figure 10c. As Parruck, referring to Figure 10c, discusses "When the ATM data cell has been received at OutPORT 510(p) 80, it is determined 81 whether it is associated with a unicast or multicast call" (col. 11, lines 14-16). Parruck does not discuss "identifying the at least one *virtual circuit identifier* of the second network element in the traffic" as found in claim 4 of the present application. Applicant respectfully notes that Parruck neither teaches, suggests or motivates the elements found in claim 4. Thus, a prima facie case of obviousness has not been established. As a result claim 4 should be allowed.

CLAIM 5

Further, regarding Examiner's rejection of claim 5, Examiner admits "Parruck is silent or deficient to creating a new translation connection using the changed virtual circuit identifier" but asserts "it would have been obvious to one skilled in the art prior to applicant's invention to create a new translation connection" because Parruck checks the validity of the connection and "if the connection is *no longer valid* then the connection is torn down." *FOA* at ¶ 4, p. 5. In contrast, Applicant's claim 5 provides "when the at least one *virtual circuit identifier* of the second network element *changes*, creating a new translation connection using the changed virtual circuit identifier of the second network element". Unlike Parruck, Applicant's claim 5 is not dependent on identifying a connection that is "*no longer valid.*" Applicant respectfully notes that Parruck neither teaches, suggests or motivates the elements found in claim 5. Thus, a prima facie case of obviousness has not been established. As a result claim 5 should be allowed.

CLAIM 11

Claim 11 is directed to a method of automatic permanent virtual circuit connection activation. The method includes detecting initiation of communication between a first and a second network element at a first reference point, learning at least one virtual circuit identifier of the first network element, learning at least one virtual circuit identifier of the second network element, and creating a translation connection between the first and second network elements. Parruck does not teach or suggest the method of automatic permanent virtual circuit connection activation as found in claim 11.

First, Parruck does not disclose learning at least one virtual circuit identifier of the first and second network element as found in claim 11. Instead, Parruck discusses "a SETUP signal is generated by InPORT processor 416 and forwarded to both SU processor 602 and OutPORT processor 516 by way of bus 601. OutPORT processor 516 responds to SETUP signal by echoing back to both SU processor 602 and InPORT processor 416 connection parameters such as (VC, VP) associated with virtual circuit 800" (col. 6 lines 66 – col. 7 lines 8). Thus, Parruck does not describe "learning at least one *virtual circuit identifier* of the second network element" where a "*virtual circuit identifier*" is defined in the Applicant's specification as "the address field of any given network protocol that supports 'virtual circuit connections.'" *See* Application, at ¶ [0015].

Further, Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 11. Instead, Parruck discusses "InCCC 415 then uses the information from CRC and the lookup table device to generate a configuration set up cell CSC. CSC is then passed to a second configuration cell configurator CCC 615 associated with SU 600. ... CCC 615 includes routing tables associated with virtual link 800b used, in part to form virtual circuit 800. Once the routing tables included with SU 600 are updated and validated by CSC, CSC is passed to OutSAP 514 where associated connection tables are updated and validated to define virtual link 800c. In this manner, virtual links 800a, 800b , and 800c may be used to define virtual circuit 800 in a hop by hop manner through ATM switch 202." (col. 7,

lines 9-21). Parruck creates an ATM virtual circuit connection through this "hop by hop manner through ATM switch 202" rather than a translation connection as recited in the current application.

Although Examiner admits that Parruck does not disclose a translation connection, Examiner asserts "that it would have been obvious to one skilled in the art prior to applicant's invention to create a translation connection." *FOA* at ¶ 4 p. 4. Parruck provides neither a motivation to establish a translation connection nor a reasonable expectation of success. Examiner assert that "[o]ne skilled in the art would be motivated to create a translation connection for the purpose of allowing the first network element to communicate with the second network element through the reference point that contains the translation connection." *FOA* at ¶ 4, p. 4. To the contrary, Parruck specifically defines a virtual circuit "in a hop by hop manner through ATM switch 202" without creating a translation connection. As Applicant discusses in the present application "[w]hen remote unit 120 and central unit 130 are assigned the *same* virtual circuit identifiers then compatible data transmission is assured." Application, at ¶ [0023]. In other words, when the remote unit and central unit are assigned the *same* virtual circuit identifiers then a translation connection is not required. As Applicant further discusses in the present application "[w]hen remote unit 120 and central unit are assigned or programmed to default to *different* virtual circuit identifiers then virtual connection translation is required." *Id.* For the latter case, "[e]mbodiments of the present invention provide an automatic PVC connection activation between customer premises equipment 170 and central unit 130 or other cross connect equipment associated with access network 140." *Id.* Parruck neither teaches, suggests or motivates the creation of a translation connection under these, or any circumstances, nor is a translation connection required to practice Parruck. The Examiner's alleged cure of the deficiency amounts to hindsight reconstruction.

Applicant respectfully notes that Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 11, or suggest learning at least one virtual circuit identifier as found in claim 11. The Examiner cannot remedy

this by hindsight reconstruction. Thus a prima facie case of obviousness has not been established. As a result claim 11 should be allowed.

CLAIMS 12-15, 18, 19

Claims 12-15, 18 and 19 depend from and further define allowable claim 11 and for at least the reasons provided above are also allowable.

CLAIMS 12, 13, 15

Further, regarding claims 12, 13 and 15, Parruck discusses validating "routing tables included with SU 600" (col. 7, lines 16-17) and for an ATM data cell "the connection parameters included within the connection table associated with InSAP are fetched 651 and a validity determination 62 is made" (col. 10, lines 51- 55). Further, Parruck discusses "Validation refers to the process whereby a validity bit, or some other flag, is set to indicate that the connection data contained within the respective connection table are valid and appropriate to the virtual circuit being set up." (col. 9, lines 6-9). Parruck does not discuss "validating the at least one *virtual circuit identifier*" as defined by "a valid permanent virtual circuit database" as found in claims 12, 13 and 15 of the present application . Applicant respectfully notes that Parruck neither teaches, suggests or motivates the elements found in claims 12, 13 and 15. Thus, a prima facie case of obviousness has not been established. As a result claims 12, 13 and 15 should be allowed.

CLAIM 14

Further, regarding Examiner's rejection of claim 14, Examiner admits "Parruck is silent or deficient to creating a new translation connection using the changed virtual circuit identifier" but asserts "it would have been obvious to one skilled in the art prior to applicant's invention to create a new translation connection" because Parruck checks the validity of the connection and

"if the connection is *no longer valid* then the connection is torn down." *FOA* at ¶ 4, p. 5. In contrast, Applicant's claim 14 provides "when the at least one *virtual circuit identifier* of the second network element *changes*, creating a new translation connection using the changed virtual circuit identifier of the second network element". Unlike Parruck, Applicant's claim 5 is not dependent on identifying a connection that is "*no longer valid.*" Applicant respectfully notes that Parruck neither teaches, suggests or motivates the elements found in claim 14. Thus, a prima facie case of obviousness has not been established. As a result claim 14 should be allowed.

CLAIM 20

Claim 20 is directed to a method of automatic permanent virtual circuit connection activation. The method includes detecting initiation of communication between customer premises equipment and a network element at a first reference point, receiving at least one virtual circuit identifier of the network element, learning at least one virtual circuit identifier of the customer premises equipment, and creating a translation connection between the customer premises equipment and the network element. Parruck does not teach or suggest the method of automatic permanent virtual circuit connection activation as found in claim 20.

First, Parruck does not disclose learning at least one virtual circuit identifier of the customer premises equipment as found in claim 20. Instead, Parruck discusses "a SETUP signal is generated by InPORT processor 416 and forwarded to both SU processor 602 and OutPORT processor 516 by way of bus 601. OutPORT processor 516 responds to SETUP signal by echoing back to both SU processor 602 and InPORT processor 416 connection parameters such as (VC, VP) associated with virtual circuit 800" (col. 6 lines 66 – col. 7 lines 8). Thus, Parruck does not describe "learning at least one *virtual circuit identifier* of the second network element" where a "*virtual circuit identifier*" is defined in the Applicant's specification as "the address field of any given network protocol that supports 'virtual circuit connections.'" *See* Application, at ¶ [0015].

Further, Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 20. Instead, Parruck discusses "InCCC 415 then uses the information from CRC and the lookup table device to generate a configuration set up cell CSC. CSC is then passed to a second configuration cell configurator CCC 615 associated with SU 600. ... CCC 615 includes routing tables associated with virtual link 800b used, in part to form virtual circuit 800. Once the routing tables included with SU 600 are updated and validated by CSC, CSC is passed to OutSAP 514 where associated connection tables are updated and validated to define virtual link 800c. In this manner, virtual links 800a, 800b , and 800c may be used to define virtual circuit 800 in a hop by hop manner through ATM switch 202." (col. 7, lines 9-21). Parruck creates an ATM virtual circuit connection through this "hop by hop manner through ATM switch 202" rather than a translation connection as recited in the current application.

Although Examiner admits that Parruck does not disclose a translation connection, Examiner asserts "that it would have been obvious to one skilled in the art prior to applicant's invention to create a translation connection." *FOA* at ¶ 4, p. 4. Parruck provides neither a motivation to establish a translation connection nor a reasonable expectation of success. Examiner assert that "[o]ne skilled in the art would be motivated to create a translation connection for the purpose of allowing the first network element to communicate with the second network element through the reference point that contains the translation connection" *FOA* at ¶ 4,p. 4. To the contrary, Parruck specifically defines a virtual circuit "in a hop by hop manner through ATM switch 202" without creating a translation connection. As Applicant discusses in the present application "[w]hen remote unit 120 and central unit 130 are assigned the *same* virtual circuit identifiers then compatible data transmission is assured." Application, at ¶ [0023]. In other words, when the remote unit and central unit are assigned the *same* virtual circuit identifiers then a translation connection is not required. As Applicant further discusses in the present application "[w]hen remote unit 120 and central unit are assigned or programmed to default to *different* virtual circuit identifiers then virtual connection translation is required." *Id.*

For the latter case, "[e]mbodiments of the present invention provide an automatic PVC connection activation between customer premises equipment 170 and central unit 130 or other cross connect equipment associated with access network 140." *Id.* Parruck neither teaches, suggests or motivates the creation of a translation connection under these, or any circumstances, nor is a translation connection required to practice Parruck. The Examiner's alleged cure of the deficiency amounts to hindsight reconstruction.

Applicant respectfully notes that Parruck does not teach or suggest creating a translation connection between the network element and the customer premises equipment as found in claim 20, or suggest learning at least one virtual circuit identifier as found in claim 20. The Examiner cannot remedy this by hindsight reconstruction. Thus a prima facie case of obviousness has not been established. As a result claim 20 should be allowed.

CLAIMS 21-24, 27

Claims 21-24 and 27 depend from and further define allowable claim 20 and for at least the reasons provided above are also allowable.

CLAIM 21, 22, 24

Further, regarding claims 21, 22 and 24, Parruck discusses validating "routing tables included with SU 600" (col. 7, lines 16-17) and for an ATM data cell "the connection parameters included within the connection table associated with InSAP are fetched 651 and a validity determination 62 is made" (col. 10, lines 51- 55). Further, Parruck discusses "Validation refers to the process whereby a validity bit, or some other flag, is set to indicate that the connection data contained within the respective connection table are valid and appropriate to the virtual circuit being set up." (col. 9, lines 6-9). Parruck does not discuss "validating the at least one *virtual circuit identifier*" as defined by "a valid permanent virtual circuit database" as found in claims 2 and 3 of the present application . Applicant respectfully notes that Parruck neither

teaches, suggests or motivates the elements found in claims 21, 22 and 24. Thus, a prima facie case of obviousness has not been established. As a result claims 21, 22 and 24 should be allowed.

CLAIM 23

Further, regarding Examiner's rejection of claim 23, Examiner admits "Parruck is silent or deficient to creating a new translation connection using the changed virtual circuit identifier" but asserts "it would have been obvious to one skilled in the art prior to applicant's invention to create a new translation connection" because Parruck checks the validity of the connection and "if the connection is *no longer valid* then the connection is torn down." *FOA* at ¶ 4, p. 5. In contrast, Applicant's claim 23 provides "when the at least one *virtual circuit identifier* for the customer premises equipment *changes*, recreating the translation connection using the changed virtual circuit identifier for the customer premises equipment". Unlike Parruck, Applicant's claim 23 is not dependent on identifying a connection that is "*no longer valid*." Applicant respectfully notes that Parruck neither teaches, suggests or motivates the elements found in claim 23. Thus, a prima facie case of obviousness has not been established. As a result claim 23 should be allowed.

CLAIM 49

Claim 49 is directed to a method of automatic permanent virtual circuit connection activation. The method includes detecting initiation of communication at a user network interface between a first and a second network element, learning at least one virtual circuit identifier of the first network element, learning at least one virtual circuit identifier of the second network element, and creating a translation connection between the first and second network elements. Parruck does not teach or suggest the method of automatic permanent virtual circuit connection activation as found in claim 49.

First, Parruck does not disclose learning at least one virtual circuit identifier of the first and second network element as found in claim 49. Instead, Parruck discusses "a SETUP signal is generated by InPORT processor 416 and forwarded to both SU processor 602 and OutPORT processor 516 by way of bus 601. OutPORT processor 516 responds to SETUP signal by echoing back to both SU processor 602 and InPORT processor 416 connection parameters such as (VC, VP) associated with virtual circuit 800" (col. 6 lines 66 – col. 7 lines 8). Thus, Parruck does not describe "learning at least one *virtual circuit identifier* of the second network element" where a "*virtual circuit identifier*" is defined in the Applicant's specification as "the address field of any given network protocol that supports 'virtual circuit connections.'" *See* Application, at ¶ [0015].

Further, Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 49. Instead, Parruck discusses "InCCC 415 then uses the information from CRC and the lookup table device to generate a configuration set up cell CSC. CSC is then passed to a second configuration cell configurator CCC 615 associated with SU 600. ... CCC 615 includes routing tables associated with virtual link 800b used, in part to form virtual circuit 800. Once the routing tables included with SU 600 are updated and validated by CSC, CSC is passed to OutSAP 514 where associated connection tables are updated and validated to define virtual link 800c. In this manner, virtual links 800a, 800b , and 800c may be used to define virtual circuit 800 in a hop by hop manner through ATM switch 202." (col. 7, lines 9-21). Parruck creates an ATM virtual circuit connection through this "hop by hop manner through ATM switch 202" rather than a translation connection as recited in the current application.

Although Examiner admits that Parruck does not disclose a translation connection, Examiner asserts "that it would have been obvious to one skilled in the art prior to applicant's invention to create a translation connection." *FOA* at ¶ 4, p. 4. Parruck provides neither a motivation to establish a translation connection nor a reasonable expectation of success. Examiner assert that "[o]ne skilled in the art would be motivated to create a translation

connection for the purpose of allowing the first network element to communicate with the second network element through the reference point that contains the translation connection" *FOA* at ¶ 4, p. 4. To the contrary, Parruck specifically defines a virtual circuit "in a hop by hop manner through ATM switch 202" without creating a translation connection. As Applicant discusses in the present application "[w]hen remote unit 120 and central unit 130 are assigned the *same* virtual circuit identifiers then compatible data transmission is assured." Application, at ¶ [0023]. In other words, when the remote unit and central unit are assigned the *same* virtual circuit identifiers then a translation connection is not required. As Applicant further discusses in the present application "[w]hen remote unit 120 and central unit are assigned or programmed to default to *different* virtual circuit identifiers then virtual connection translation is required." *Id.* For the latter case, "[e]mbodiments of the present invention provide an automatic PVC connection activation between customer premises equipment 170 and central unit 130 or other cross connect equipment associated with access network 140." *Id.* Parruck neither teaches, suggests or motivates the creation of a translation connection under these, or any circumstances, nor is a translation connection required to practice Parruck. The Examiner's alleged cure of the deficiency amounts to hindsight reconstruction.

Applicant respectfully notes that Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 49, or suggest learning at least one virtual circuit identifier as found in claim 49. The Examiner cannot remedy this by hindsight reconstruction. Thus a prima facie case of obviousness has not been established. As a result claim 49 should be allowed.

CLAIMS 50, 51, 53, 54

Claims 50, 51, 53-54 depend from and further define allowable claim 49 and for at least the reasons provided above are also allowable.

CLAIMS 50, 51

Further, regarding Examiner's rejection of claim 50, Examiner admits "Parruck is silent or deficient to creating a new translation connection using the changed virtual circuit identifier" but asserts "it would have been obvious to one skilled in the art prior to applicant's invention to create a new translation connection" because Parruck checks the validity of the connection and "if the connection is *no longer valid* then the connection is torn down." *FOA* at ¶ 4, p. 5. In contrast, Applicant's claim 50 provides "when the at least one *virtual circuit identifier* of the second network element *changes*, creating a new translation connection using the changed virtual circuit identifier of the second network element". Unlike Parruck, Applicant's claim 50 is not dependent on identifying a connection that is "*no longer valid.*" Applicant respectfully notes that Parruck neither teaches, suggests or motivates the elements found in claim 50. Thus, a prima facie case of obviousness has not been established. As a result claim 50 should be allowed. Further, claim 51 depends from and further defines claim 50 and for at least the reasons provided above are also allowable. Thus, a prima facie case of obviousness has not been established. As a result claim 51 should be allowed.

Examiner rejected claims 7, 8, 16, 17, 25, 28 and 52 under 35 U.S.C. 103(a) as unpatentable over Parruck et al. in view of Black's "ATM Foundation for Broadband Networks" and in further view of Rice's "Soft PVCS in an ATM Network".

After review of Parruck et al., Black and Rice, and without a basis for rejection by the Examiner, the Applicant asserts that claims 7, 8, 16, 17, 25, 28 and 52 are allowable.

CLAIMS 7, 8

Claims 7 and 8 depend directly or indirectly from independent claim 1. Applicant respectfully noted above that Parruck does not teach, motivate, or suggest creating a translation

connection between the first and second network elements as found in claim 1, or suggest learning at least one virtual circuit identifier as found in claim 1. Claims 7 and 8 depend from and further define allowable claim 1 and for at least the reasons provided above are also allowable.

Further, contrary to Examiner's assertion, Black does not disclose terminating a translation connection after the second network element has reached a predetermined number of changes of virtual circuit identifiers, as does Applicant's claim 7, or disclose terminating a translation connection based on starting a timer when no activity is detected, as does Applicant's claim 8. *See FOA* at ¶ 5, p. 7. In contrast, Black discusses "[e]ither the network or the user can invoke the connection release by sending the RELEASE message to the respective party" and "[i]f a response is not returned on the second try, the user must release the call reference and return to the null state (no connection exists)." Black at p. 254. Applicant asserts that Examiner's reference to Rice also fails to disclose the above limitations of claims 7 and 8. Parruck et al. in view of Black and in further view of Rice's fails to teach, motivate, or suggest the limitations of claims 7 and 8. Thus a prima facie case of obviousness has not been established. As a result claims 7 and 8 should be allowed.

CLAIM 16, 17

Claims 16 and 17 depend directly or indirectly from independent claim 11. Applicant respectfully noted above that Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 11, or suggest learning at least one virtual circuit identifier as found in claim 11. Claims 16 and 17 depend from and further define allowable claim 11 and for at least the reasons provided above are also allowable.

Further, contrary to Examiner's assertion, Black does not disclose terminating a translation connection after the second network element has reached a predetermined number of changes of virtual circuit identifiers, as does Applicant's claim 16, or disclose terminating a translation connection based on starting a timer when no activity is detected, as does Applicant's

claim 17. *See FOA* at ¶ 5, p. 7. In contrast, Black discusses "[e]ther the network or the user can invoke the connection release by sending the RELEASE message to the respective party" and "[i]f a response is not returned on the second try, the user must release the call reference and return to the null state (no connection exists)." Black at p. 254. Applicant asserts that Examiner's reference to Rice also fails to disclose the above limitations of claims 16 and 17. Parruck et al. in view of Black and in further view of Rice's fails to teach, motivate, or suggest the limitations of claims 16 and 17. Thus a prima facie case of obviousness has not been established. As a result claims 16 and 17 should be allowed.

CLAIM 25, 28

Claims 25 and 28 depend directly or indirectly from independent claim 20. Applicant respectfully noted above that Parruck does not teach or suggest creating a translation connection between the network element and customer premises equipment as found in claim 20, or suggest learning at least one virtual circuit identifier as found in claim 20. Claims 25 and 28 depend from and further define allowable claim 20 and for at least the reasons provided above are also allowable.

Further, contrary to Examiner's assertion, Black does not disclose terminating a translation connection after the second network element has reached a predetermined number of changes of virtual circuit identifiers, as does Applicant's claim 25, or disclose terminating a translation connection based on starting a timer when no activity is detected, Applicant's claim 28. *See FOA* at ¶ 5, p. 7. In contrast, Black discusses "[e]ther the network or the user can invoke the connection release by sending the RELEASE message to the respective party" and "[i]f a response is not returned on the second try, the user must release the call reference and return to the null state (no connection exists)." Black at p. 254. Applicant asserts that Examiner's reference to Rice also fails to disclose the above limitations of claims 25 and 28. Parruck et al. in view of Black and in further view of Rice's fails to teach, motivate, or suggest the limitations

of claims 25 and 28. Thus a prima facie case of obviousness has not been established. As a result claims 25 and 28 should be allowed.

CLAIM 52

Claim 52 depends directly from independent claim 49. Applicant respectfully noted above that Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 49, or suggest learning at least one virtual circuit identifier as found in claim 49. Claims 52 depends from and further defines allowable claim 49 and for at least the reasons provided above are also allowable.

Further, contrary to Examiner's assertion, Black does not disclose terminating a translation connection based on starting a timer when no activity is detected, as does Applicant's claim 52. *See FOA* at ¶ 5, p. 7. Instead, Black discusses "[e]ther the network or the user can invoke the connection release by sending the RELEASE message to the respective party" and "[i]f a response is not returned on the second try, the user must release the call reference and return to the null state (no connection exists)." Black at p. 254. Applicant asserts that Examiner's reference to Rice also fails to disclose the above limitations of claim 52. Parruck et al. in view of Black and in further view of Rice's fails to teach, motivate, or suggest the limitations of claims 52. Thus a prima facie case of obviousness has not been established. As a result claims 52 should be allowed.

Examiner rejected claims 9, 26, 29-33, 35-36, 38-40, 42-44 and 47-48 under 35 U.S.C. 103(a) as unpatentable over Parruck in view of Gagnaie's "An Overview of Broad-band Access Technologies".

After review of Parruck et al and Gagnaie, and without a basis for rejection by the Examiner, the Applicant asserts that claims 9, 26, 29-33, 35-36, 38-40, 42-44 and 47-48 are allowable.

CLAIM 9

Claim 9 depends directly from independent claim 1. Applicant respectfully noted above that Parruck does not teach or suggest creating a translation connection between the first and second network elements as found in claim 1, or suggest learning at least one virtual circuit identifier as found in claim 1. Claim 9 depends from and further define allowable claim 1 and for at least the reasons provided above are also allowable.

CLAIM 26

Claim 26 depends directly from independent claim 20. Applicant respectfully noted above that Parruck does not teach or suggest creating a translation connection between the network element and customer premises equipment as found in claim 20, or suggest learning at least one virtual circuit identifier as found in claim 20. Claim 26 depends from and further defines allowable claim 20 and for at least the reasons provided above are also allowable.

CLAIM 29

Claim 29 is directed to a method of automatically configuring a permanent virtual circuit in an ATM network. The method includes detecting communication initiation of an ATU-R, receiving at least one virtual circuit identifier of an ATU-C, learning at least one virtual circuit identifier of the ATU-R, and creating a translation connection between the ATU-R and the ATUC. Parruck alone or in combination with Gagnaie does not teach or suggest the method of automatically configuring a permanent virtual circuit in an ATM network as found in claim 29.

First, Parruck alone or in combination with Gagnaie does not disclose learning at least one virtual circuit identifier of the ATU-R as found in claim 29. Instead, Parruck discusses "a SETUP signal is generated by InPORT processor 416 and forwarded to both SU processor 602 and OutPORT processor 516 by way of bus 601. OutPORT processor 516 responds to SETUP

signal by echoing back to both SU processor 602 and InPORT processor 416 connection parameters such as (VC, VP) associated with virtual circuit 800" (col. 6 lines 66 – col. 7 lines 8). Thus, Parruck does not describe "learning at least one *virtual circuit identifier* of the ATU-R" where a "*virtual circuit identifier*" is defined in the Applicant's specification as "the address field of any given network protocol that supports 'virtual circuit connections.'" *See* Application, at ¶ [0015].

Further, Parruck alone or in combination with Gagnaie does not teach or suggest creating a translation connection between the ATU-R and the ATU-C as found in claim 29. Instead, Parruck discusses "InCCC 415 then uses the information from CRC and the lookup table device to generate a configuration set up cell CSC. CSC is then passed to a second configuration cell configurator CCC 615 associated with SU 600. ... CCC 615 includes routing tables associated with virtual link 800b used, in part to form virtual circuit 800. Once the routing tables included with SU 600 are updated and validated by CSC, CSC is passed to OutSAP 514 where associated connection tables are updated and validated to define virtual link 800c. In this manner, virtual links 800a, 800b , and 800c may be used to define virtual circuit 800 in a hop by hop manner through ATM switch 202." (col. 7, lines 9-21). Parruck creates an ATM virtual circuit connection through this "hop by hop manner through ATM switch 202" rather than a translation connection as recited in the current application.

Although Examiner admits that Parruck does not disclose a translation connection, Examiner asserts "that it would have been obvious to one skilled in the art prior to applicant's invention to create a translation connection." *FOA* at ¶ 4, p. 4. Parruck alone or in combination with Gagnaie provides neither a motivation to establish a translation connection nor a reasonable expectation of success. Examiner assert that "[o]ne skilled in the art would be motivated to create a translation connection for the purpose of allowing the first network element to communicate with the second network element through the reference point that contains the translation connection" *FOA* at ¶ 4, p. 4. To the contrary, Parruck specifically defines a virtual circuit "in a hop by hop manner through ATM switch 202" without creating a translation

connection. As Applicant discusses in the present application "[w]hen remote unit 120 and central unit 130 are assigned the *same* virtual circuit identifiers then compatible data transmission is assured." Application, at ¶ [0023]. In other words, when the remote unit and central unit are assigned the *same* virtual circuit identifiers then a translation connection is not required. As Applicant further discusses in the present application "[w]hen remote unit 120 and central unit are assigned or programmed to default to *different* virtual circuit identifiers then virtual connection translation is required." *Id.* For the latter case, "[e]mbodiments of the present invention provide an automatic PVC connection activation between customer premises equipment 170 and central unit 130 or other cross connect equipment associated with access network 140." *Id.* Parruck alone or in combination with Gagnaie neither teaches, suggests or motivates the creation of a translation connection under these, or any circumstances, nor is a translation connection required to practice Parruck. The Examiner's alleged cure of the deficiency amounts to hindsight reconstruction.

Applicant respectfully notes that Parruck alone or in combination with Gagnaie does not teach or suggest creating a translation connection between the ATU-R and the ATU-C, as found in claim 29, or suggest learning at least one virtual circuit identifier as found in claim 29. The Examiner cannot remedy this by hindsight reconstruction. Thus a prima facie case of obviousness has not been established. As a result claim 29 should be allowed.

CLAIMS 30-33, 35, 36

Claims 30-33, 35 and 36 depend from and further define allowable claim 29 and for at least the reasons provided above are also allowable.

CLAIM 30, 33

Further, regarding claims 30 and 33, Parruck discusses validating "routing tables included with SU 600" (col. 7, lines 16-17) and for an ATM data cell "the connection parameters included within the connection table associated with InSAP are fetched 651 and a validity

determination 62 is made" (col. 10, lines 51- 55). Further, Parruck discusses "Validation refers to the process whereby a validity bit, or some other flag, is set to indicate that the connection data contained within the respective connection table are valid and appropriate to the virtual circuit being set up." (col. 9, lines 6-9). Parruck does not discuss "validating the at least one *virtual circuit identifier*" as defined by "a valid permanent virtual circuit database" as found in claims 30 and 33 of the present application . Applicant respectfully notes that Parruck alone or in combination with Gagnaie neither teaches, suggests or motivates the elements found in claims 30 and 33. Thus, a prima facie case of obviousness has not been established. As a result claims 30 and 33 should be allowed.

CLAIM 32

Further, regarding Examiner's rejection of claim 32, Examiner admits "Parruck is silent or deficient to creating a new translation connection using the changed virtual circuit identifier" but asserts "it would have been obvious to one skilled in the art prior to applicant's invention to create a new translation connection" because Parruck checks the validity of the connection and "if the connection is *no longer valid* then the connection is torn down." *FOA* at ¶ 4, p. 5. In contrast, Applicant's claim 32 provides "when the at least one *virtual circuit identifier* for the ATU-R *changes*, recreating a new translation connection using the changed virtual circuit identifier for the ATU-R". Unlike Parruck, Applicant's claim 32 is not dependent on identifying a connection that is "*no longer valid*." Applicant respectfully notes that Parruck alone or in combination with Gagnaie neither teaches, suggests or motivates the elements found in claim 32. Thus, a prima facie case of obviousness has not been established. As a result claim 32 should be allowed.

CLAIM 38, 39, 40

Claim 38 is directed to a communication network. The communication network includes an access network, a central unit selectively coupled to the access network, customer premises equipment selectively coupled to the central unit, and an automatic permanent virtual circuit (PVC) connection activation function embedded within the central unit. The automatic PVC is enabled when the customer premises equipment is initialized and is adapted to create a translation connection between the customer premises equipment and the central unit.

First, Parruck alone or in combination with Gagnaie does not teach or suggest creating a translation connection between the customer premises equipment and the central unit, as found in claim 38. Instead, Parruck discusses "InCCC 415 then uses the information from CRC and the lookup table device to generate a configuration set up cell CSC. CSC is then passed to a second configuration cell configurator CCC 615 associated with SU 600. ... CCC 615 includes routing tables associated with virtual link 800b used, in part to form virtual circuit 800. Once the routing tables included with SU 600 are updated and validated by CSC, CSC is passed to OutSAP 514 where associated connection tables are updated and validated to define virtual link 800c. In this manner, virtual links 800a, 800b , and 800c may be used to define virtual circuit 800 in a hop by hop manner through ATM switch 202." (col. 7, lines 9-21). Parruck creates an ATM virtual circuit connection through this "hop by hop manner through ATM switch 202" rather than a translation connection as recited in the current application.

Although Examiner admits that Parruck does not disclose a translation connection, Examiner asserts "that it would have been obvious to one skilled in the art prior to applicant's invention to create a translation connection." *FOA* at ¶ 4, p. 4. Parruck alone or in combination with Gagnaie provides neither a motivation to establish a translation connection nor a reasonable expectation of success. Examiner assert that "[o]ne skilled in the art would be motivated to create a translation connection for the purpose of allowing the first network element to communicate with the second network element through the reference point that contains the translation connection" *FOA* at ¶ 4, p. 4. To the contrary, Parruck specifically defines a virtual

circuit "in a hop by hop manner through ATM switch 202" without creating a translation connection. As Applicant discusses in the present application "[w]hen remote unit 120 and central unit 130 are assigned the *same* virtual circuit identifiers then compatible data transmission is assured." Application, at ¶ [0023]. In other words, when the remote unit and central unit are assigned the *same* virtual circuit identifiers then a translation connection is not required. As Applicant further discusses in the present application "[w]hen remote unit 120 and central unit are assigned or programmed to default to *different* virtual circuit identifiers then virtual connection translation is required." *Id.* For the latter case, "[e]mbodiments of the present invention provide an automatic PVC connection activation between customer premises equipment 170 and central unit 130 or other cross connect equipment associated with access network 140." *Id.* Parruck alone or in combination with Gagnaie neither teaches, suggests or motivates the creation of a translation connection under these, or any circumstances, nor is a translation connection required to practice Parruck. The Examiner's alleged cure of the deficiency amounts to hindsight reconstruction.

Applicant respectfully notes that Parruck alone or in combination with Gagnaie does not teach or suggest creating a translation connection as found in claim 38. The Examiner cannot remedy this by hindsight reconstruction. Thus a prima facie case of obviousness has not been established. As a result claim 38 should be allowed.

Additionally, the references alone or in combination do not teach or suggest an automatic permanent virtual circuit connection (PVC) activation function embedded within the central unit as found in claim 38. Further the references alone or in combination do not teach or suggest the automatic PVC is enabled when the customer premises equipment is initialized and is adapted to create a translation connection between the customer premises equipment and the central unit. As a result, the Examiner has not established a prima facie case of obviousness and claim 38 should be allowed. Claims 39 and 40 depend from and further define allowable claim 38 and for at least the reasons provided above are also allowable.

CLAIM 42

Claim 42 is directed to a method of automatic permanent virtual circuit connection activation. The method includes detecting initiation of communication at a user network interface between a first and a second network element, receiving at least one virtual circuit identifier of the first network element, learning at least one virtual circuit identifier of the second network element, and creating a translation connection between the first and second network elements. Parruck alone or in combination with Gagnaie does not teach or suggest the method of automatic permanent virtual circuit connection activation as found in claim 42.

First, Parruck alone or in combination with Gagnaie does not disclose learning at least one virtual circuit identifier of the second network element as found in claim 42. Instead, Parruck discusses "a SETUP signal is generated by InPORT processor 416 and forwarded to both SU processor 602 and OutPORT processor 516 by way of bus 601. OutPORT processor 516 responds to SETUP signal by echoing back to both SU processor 602 and InPORT processor 416 connection parameters such as (VC, VP) associated with virtual circuit 800" (col. 6 lines 66 – col. 7 lines 8). Thus, Parruck does not describe "learning at least one *virtual circuit identifier* of the second network element" where a "*virtual circuit identifier*" is defined in the Applicant's specification as "the address field of any given network protocol that supports 'virtual circuit connections.'" *See* Application, at ¶ [0015].

Further, Parruck alone or in combination with Gagnaie does not teach or suggest creating a translation connection between the first and second network elements as found in claim 42. Instead, Parruck discusses "InCCC 415 then uses the information from CRC and the lookup table device to generate a configuration set up cell CSC. CSC is then passed to a second configuration cell configurator CCC 615 associated with SU 600. ... CCC 615 includes routing tables associated with virtual link 800b used, in part to form virtual circuit 800. Once the routing tables included with SU 600 are updated and validated by CSC, CSC is passed to OutSAP 514 where associated connection tables are updated and validated to define virtual link 800c. In this manner, virtual links 800a, 800b , and 800c may be used to define virtual circuit 800 in a hop by

hop manner through ATM switch 202." (col. 7, lines 9-21). Parruck creates an ATM virtual circuit connection through this "hop by hop manner through ATM switch 202" rather than a translation connection as recited in the current application.

Although Examiner admits that Parruck does not disclose a translation connection, Examiner asserts "that it would have been obvious to one skilled in the art prior to applicant's invention to create a translation connection." *FOA* at ¶ 4, p. 4. Parruck provides neither a motivation to establish a translation connection nor a reasonable expectation of success. Examiner assert that "[o]ne skilled in the art would be motivated to create a translation connection for the purpose of allowing the first network element to communicate with the second network element through the reference point that contains the translation connection" *FOA* at ¶ 4, p. 4. To the contrary, Parruck specifically defines a virtual circuit "in a hop by hop manner through ATM switch 202" without creating a translation connection. As Applicant discusses in the present application "[w]hen remote unit 120 and central unit 130 are assigned the *same* virtual circuit identifiers then compatible data transmission is assured." Application, at ¶ [0023] . In other words, when the remote unit and central unit are assigned the *same* virtual circuit identifiers then a translation connection is not required. As Applicant further discusses in the present application "[w]hen remote unit 120 and central unit are assigned or programmed to default to *different* virtual circuit identifiers then virtual connection translation is required." *Id.* For the latter case, "[e]mbodiments of the present invention provide an automatic PVC connection activation between customer premises equipment 170 and central unit 130 or other cross connect equipment associated with access network 140." *Id.* Parruck alone or in combination with Gagnaie neither teaches, suggests or motivates the creation of a translation connection under these, or any circumstances, nor is a translation connection required to practice Parruck. The Examiner's alleged cure of the deficiency amounts to hindsight reconstruction.

Applicant respectfully notes that Parruck alone or in combination with Gagnaie does not teach or suggest creating a translation connection between the first and second network elements as found in claim 42, or suggest learning at least one virtual circuit identifier as found in claim

42. The Examiner cannot remedy this by hindsight reconstruction. Thus a prima facie case of obviousness has not been established. As a result claim 42 should be allowed.

CLAIM 43, 44, 47, 48

Claims 43, 44, 47 and 48 depend from and further define allowable claim 42 and for at least the reasons provided above are also allowable.

CLAIM 43

Further, regarding Examiner's rejection of claim 43, Examiner references Parruck Figure 10c. As Parruck, referring to Figure 10c, discusses "When the ATM data cell has been received at OutPORT 510(p) 80, it is determined 81 whether it is associated with a unicast or multicast call." (col. 11, lines 14-16). Parruck does not discuss "identifying the at least one *virtual circuit identifier* of the second network element in the traffic" as found in claim 43 of the present application. Applicant respectfully notes that Parruck alone or in combination with Gagnaie neither teaches, suggests or motivates the elements found in claim 43. Thus, a prima facie case of obviousness has not been established. As a result claim 43 should be allowed.

CLAIM 44

Further, regarding Examiner's rejection of claim 44, Examiner admits "Parruck is silent or deficient to creating a new translation connection using the changed virtual circuit identifier" but asserts "it would have been obvious to one skilled in the art prior to applicant's invention to create a new translation connection" because Parruck checks the validity of the connection and "if the connection is *no longer valid* then the connection is torn down." *FOA* at ¶ 4, p. 5. In contrast, Applicant's claim 44 provides "when the at least one *virtual circuit identifier* of the second network element *changes*, creating a new translation connection using the changed virtual circuit identifier of the second network element". Unlike Parruck, Applicant's claim 44 is

not dependent on identifying a connection that is "*no longer valid.*" Applicant respectfully notes that Parruck neither teaches, suggests or motivates the elements found in claim 44. Thus, a prima facie case of obviousness has not been established. As a result claim 44 should be allowed.

Examiner rejected claims 34, 37, 45 and 46 under 35 U.S.C. 103(a) as unpatentable over Parruck et al. in view of Gagnaie to Black and in further view of Rice.

After review of Parruck et al, Black, Rice and Gagnaie, and without a basis for rejection by the Examiner, the Applicant asserts that claims 34, 37, 45 and 46 are allowable.

CLAIMS 34, 37

Claims 34 and 37 depend directly or indirectly from independent claim 29. Applicant respectfully noted above that Parruck alone or in combination with Gagnaie does not teach, motivate or suggest creating a translation connection between the ATU-R and the ATU-C, as found in claim 29, or suggest learning at least one virtual circuit identifier as found in claim 29. Claims 34 and 37 depend from and further define allowable claim 29 and for at least the reasons provided above are also allowable.

CLAIM 45, 46

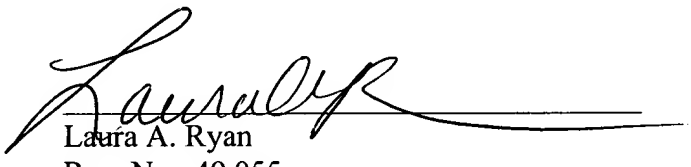
Claims 45 and 46 depend directly or indirectly from independent claim 42. Applicant respectfully noted above that Parruck alone or in combination with Gagnaie does not teach, motivate, or suggest creating a translation connection between the first and second network elements as found in claim 42, or suggest learning at least one virtual circuit identifier as found in claim 42. Claims 45 and 46 depend from and further define allowable claim 42 and for at least the reasons proved above are also allowable.

CONCLUSION

Appellants have set forth reasons why the Examiner is incorrect in maintaining the rejections of the pending claims. Specifically, the Examiner has failed to set forth a prima facie case of obviousness. The Parruck, Black, Gagnaie and Rice references either alone or in combination do not teach all of the limitations in the pending independent and dependant claims. Appellant respectfully submits that, for the above reasons, Claims 1-40 and 42-54 are allowable over the cited art. Therefore, reversal of the Examiner's rejections is respectfully requested.

Respectfully submitted,

Date: 12/20/2004



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8. Claims appendix

1. (Original) A method of automatic permanent virtual circuit connection activation, the method comprising:

detecting initiation of communication between a first and a second network element at a first reference point;

receiving at least one virtual circuit identifier of the first network element;

learning at least one virtual circuit identifier of the second network element; and

creating a translation connection between the first and second network elements.

2. (Original) The method of claim 1, further comprising validating the at least one virtual circuit identifier of the first network element as defined by a valid permanent virtual circuit database.

3. (Original) The method of claim 1, further comprising validating the at least one virtual circuit identifier of the second network element as defined by a valid permanent virtual circuit database.

4. (Original) The method of claim 1, wherein learning at least one virtual circuit identifier of the second network element, comprises:

monitoring traffic between the first and second network elements for any type of virtual circuit identifier transmitted from the second network element; and

identifying the at least one virtual circuit identifier of the second network element in the traffic.

5. (Original) The method of claim 1, further comprising:

monitoring a permanent virtual circuit created by the translation connection;

when the at least one virtual circuit identifier of the second network element changes, creating a new translation connection using the changed virtual circuit identifier of the second network element.

6. (Original) The method of claim 5, further comprising validating the changed virtual circuit identifier of the second network element as defined by a valid permanent virtual circuit database.

7. (Original) The method of claim 5, further comprising:

when the number of changes of virtual circuit identifiers of the second network element have reached a predetermined number of changes terminating the translation connection.

8. (Original) The method of claim 1, further comprising:

monitoring the first reference point and a second reference point, that is located on the network side of the first network element, for activity;

when no activity is detected at the first or second reference points starting a timer; and

when the timer has reached a predetermined amount of time terminating the translation connection.

9. (Original) The method of claim 1, wherein receiving at least one virtual circuit identifier of the first network element comprises receiving a message from an associated network containing the at least one virtual circuit identifier of the first network element.

10. (Original) The method of claim 1, wherein learning at least one virtual circuit identifier of the second network element comprises receiving traffic from the second network element containing the at least one virtual circuit identifier of the second network element and storing the identifier.

11. (Original) A method of automatic permanent virtual circuit connection activation, the method comprising:

detecting initiation of communication between a first and a second network element at a first reference point;

learning at least one virtual circuit identifier of the first network element;

learning at least one virtual circuit identifier of the second network element; and

creating a translation connection between the first and second network elements.

12. (Original) The method of claim 11, further comprising validating the at least one virtual circuit identifier of the first network element as defined by a valid permanent virtual circuit database.

13. (Original) The method of claim 11, further comprising validating the at least one virtual circuit identifier of the second network element as defined by a valid permanent virtual circuit database.

14. (Original) The method of claim 11, further comprising:

monitoring a permanent virtual circuit created by the translation connection; and

when the at least one virtual circuit identifier of the second network element changes, creating a new translation connection using the changed virtual circuit identifier of the second network element.

15. (Original) The method of claim 14, further comprising validating the changed virtual circuit identifier of the second network element as defined by a valid permanent virtual circuit database.

16. (Original) The method of claim 14, further comprising:

when the number of changes of virtual circuit identifiers of the second network element have reached a predetermined number of changes terminating the translation connection.

17. (Original) The method of claim 11, further comprising:

monitoring the first reference point and a second reference point, that is located on the network side of the first network element, for activity;

when no activity is detected at the first or second reference points starting a timer; and

when the timer has reached a predetermined amount of time terminating the translation connection.

18. (Original) The method of claim 11, wherein learning at least one virtual circuit identifier of the first network element comprises receiving traffic from the first network element containing the at least one virtual circuit identifier of the first network and storing the at least one virtual circuit identifier of the first network element.

19. (Original) The method of claim 11, wherein learning at least one virtual circuit identifier of the second network element comprises receiving traffic from the second network element containing the at least one virtual circuit identifier of the second network element and storing the at least one virtual circuit identifier of the second network element.

20. (Original) A method of automatic permanent virtual circuit connection activation, the method comprising:

detecting initiation of communication between customer premises equipment and a network element at a first reference point;

receiving at least one virtual circuit identifier of the network element;

learning at least one virtual circuit identifier of the customer premises equipment; and

creating a translation connection between the customer premises equipment and the network element.

21. (Original) The method of claim 20, further comprising validating the at least one virtual circuit identifier of the network element as defined by a valid permanent virtual circuit database.

22. (Original) The method of claim 20, further comprising validating the at least one virtual circuit identifier of the customer premises equipment as defined by a valid permanent virtual circuit database.

23. (Original) The method of claim 20, further comprising:

monitoring a permanent virtual circuit created by the translation connection;

when the at least one virtual circuit identifier for the customer premises equipment changes, recreating the translation connection using the changed virtual circuit identifier for the customer premises equipment.

24. (Original) The method of claim 23, further comprising validating the changed virtual circuit identifier for the customer premises equipment as defined by a valid permanent virtual circuit database.

25. (Original) The method of claim 23, further comprising:

when the number of changes of virtual circuit identifiers of the customer premises equipment have reached a predetermined number of changes terminating the translation connection.

26. (Original) The method of claim 20, wherein receiving at least one virtual circuit identifier of the network element comprises receiving a message from an associated network containing

the at least one virtual circuit identifier of the network element.

27. (Original) The method of claim 20, wherein learning at least one virtual circuit identifier of the customer premises equipment comprises receiving traffic from the customer premises equipment containing the at least one virtual circuit identifier of the customer premises equipment and storing the at least one virtual circuit identifier of the customer premises equipment.

28. (Original) The method of claim 20, further comprising:

monitoring the first reference point and a second reference point, that is located on the network side of the network element, for activity;

when no activity is detected at the first or second reference points starting a timer; and

when the timer has reached a predetermined amount of time terminating the translation connection.

29. (Original) A method of automatically configuring a permanent virtual circuit in an ATM network, the method comprising:

detecting communication initiation of an ATU-R;

receiving at least one virtual circuit identifier of an ATU-C;

learning at least one virtual circuit identifier of the ATU-R; and

creating a translation connection between the ATU-R and the ATU-C.

30. (Original) The method of claim 29, further comprising validating the at least one virtual circuit identifier of the ATU-R as defined by a valid permanent virtual circuit database.

31. (Original) The method of claim 29, wherein detecting communication initiation of an ATU-R comprises detecting communication initiation of an ATU-R at a first reference point

32. (Original) The method of claim 29, further comprising:

monitoring a permanent virtual circuit created by the translation connection; and

when the at least one virtual circuit identifier for the ATU-R changes, recreating the translation connection using the changed virtual circuit identifier for the ATU-R.

33. (Original) The method of claim 32, further comprising validating the changed at least one virtual circuit identifier as defined by a valid permanent virtual circuit database.

34. (Original) The method of claim 32, further comprising:

when the number of changes of at least one virtual circuit identifier of the ATU-R reaches a predetermined number of changes terminating the translation connection.

35. (Original) The method of claim 29, wherein receiving at least one virtual circuit identifier of the ATU-C comprises receiving a message from an associated network containing the at least one virtual circuit identifier of the ATU-C.

36. (Original) The method of claim 29, wherein learning at least one virtual circuit identifier of the ATU-R comprises receiving traffic from the ATU-R containing the at least one virtual circuit identifier of the ATU-R and storing the at least one virtual circuit identifier of the ATU-R.

37. (Original) The method of claim 31, further comprising:

monitoring the first reference point and a second reference point, that is located on the network side of the ATU-C, for activity;

when no activity is detected at the first or second reference points starting a timer; and

when the timer has reached a predetermined amount of time terminating the translation

connection.

38. (Original) A communication network, comprising:

an access network;

a central unit selectively coupled to the access network;

customer premises equipment selectively coupled to the central unit; and

an automatic permanent virtual circuit (PVC) connection activation function embedded within the central unit, wherein the automatic PVC is enabled when the customer premises equipment is initialized and is adapted to create a translation connection between the customer premises equipment and the central unit.

39. (Original) The network of claim 38, further comprising a network interface between the customer premises equipment and the central unit.

40. (Original) The network of claim 38, wherein the customer premises equipment comprises an end user device selectively coupled to a remote unit.

41. (Cancelled)

42. (Original) A method of automatic permanent virtual circuit connection activation, the method comprising:

detecting initiation of communication at a user network interface between a first and a second network element;

receiving at least one virtual circuit identifier of the first network element;

learning at least one virtual circuit identifier of the second network element; and

creating a translation connection between the first and second network elements.

43. (Original) The method of claim 42, wherein learning at least one virtual circuit identifier of the second network element, comprises:

monitoring traffic between the first and second network elements for any type of virtual circuit identifier transmitted from the second network element; and

identifying the at least one virtual circuit identifier of the second network element in the traffic.

44. (Original) The method of claim 42, further comprising:

monitoring a permanent virtual circuit created by the translation connection;

when the at least one virtual circuit identifier of the second network element changes, creating a new translation connection using the virtual circuit identifier of the second network element.

45. (Original) The method of claim 44, further comprising:

when the number of changes of virtual circuit identifiers of the second network element have reached a predetermined number of changes terminating the translation connection.

46. (Original) The method of claim 42, further comprising:

monitoring the user network interface and a network node interface, that is located on the network side of the first network element, for activity;

when no activity is detected at the user network interface or the network node interface starting a timer; and

when the timer has reached a predetermined amount of time terminating the translation connection.

47. (Original) The method of claim 42, wherein receiving at least one virtual circuit identifier of the first network element comprises receiving a message from an associated network

containing the at least one virtual circuit identifier of the first network element.

48. (Original) The method of claim 42, wherein learning at least one virtual circuit identifier of the second network element comprises receiving traffic from the second network element containing the at least one virtual circuit identifier of the second network element and storing the identifier.

49. (Original) A method of automatic permanent virtual circuit connection activation, the method comprising:

detecting initiation of communication at a user network interface between a first and a second network element;

learning at least one virtual circuit identifier of the first network element;

learning at least one virtual circuit identifier of the second network element; and

creating a translation connection between the first and second network elements.

50. (Original) The method of claim 49, further comprising:

monitoring a permanent virtual circuit created by the translation connection; and

when the at least one virtual circuit identifier of the second network element changes, creating a new translation connection using the changed virtual circuit identifier of the second network element.

51. (Original) The method of claim 50, further comprising:

when the number of changes of virtual circuit identifiers of the second network element have reached a predetermined number of changes terminating the translation connection.

52. (Original) The method of claim 49, further comprising:

monitoring the user network interface and a network node interface, that is located on the

network side of the first network element, for activity;

when no activity is detected at the user network interface or the network node interface starting a timer; and

when the timer has reached a predetermined amount of time terminating the translation connection.

53. (Original) The method of claim 49, wherein learning at least one virtual circuit identifier of the first network element comprises receiving traffic from the first network element containing the at least one virtual circuit identifier of the first network and storing the at least one virtual circuit identifier of the first network element.

54. (Original) The method of claim 49, wherein learning at least one virtual circuit identifier of the second network element comprises receiving traffic from the second network element containing the at least one virtual circuit identifier of the second network element and storing the at least one virtual circuit identifier of the second network element.